REMARKS

In view of the above amendments and following remarks, reconsideration of the rejections contained in the Office Action of January 4, 2007 is respectfully requested.

The Examiner rejects claims 37-55 as being unpatentable over Klein, U.S. 5,970,243 in view of "applicants choice of which specific industrial process is performed." Specifically, the Examiner took the position that "it is merely considered a choice of design to select a specific industrial process (a semiconductor manufacturing process) and its inherent features."

In the first instance, it is noted that the Examiner's basic position is disagreed with. However, as the Examiner goes on to note that the "system" does not appear to be a method, Applicant has at this time amended each of independent claims 44 and 51 to be in method form and to specifically require the standby event, boat-up event, etc. considered by the Examiner to be "not entitled patentable weight." Furthermore, new independent claim 56 has been added, which is a system claim corresponding to prior claim 44. Dependent claims corresponding to new method claims 44-50 have also been presented dependent from new independent system claim 56.

Turning first to independent claim 44, the claim requires a method using a controller that carries out a control program comprising a standby event, boat-up event, ramping-up event, etc. None of these events are disclosed or suggested by Klein, as Klein is directed to on-line programming changes for industrial logic controllers. There is no disclosure or suggestion of any of these steps.

In the Office Action, the Examiner took the further position that "the events listed here . . . are considered inherent features in a manufacturing system and therefore, once the manufacturing system is selected (as the industrial process), the events are provided or enabled by default of the selection, as indicated above." However, this position by the Examiner is respectfully submitted to be improper as a matter of law. The selection of the manufacturing system is not a mere design choice.

In fact, the present invention is specifically directed to a method involving semiconductor manufacturing. Klein is not directed to semiconductor manufacturing. If the Examiner is taking the position that the semiconductor manufacturing process per se is known in the art, and therefore it

would be obvious to apply the invention of Klein to such a process, then the Examiner should cite evidence to support this conclusion rather than referring to it as a "design choice."

Further, the present invention has been developed in the context of semiconductor manufacturing. The changing of the control program involves the determining of the timing at which the control program can be changed. It further includes the step of storing a new control program in memory, in accordance with the result of the determination. It further involves determining that the timing for changing the control program is not during the recited process event that forms a film on the substrate. Thus, the present invention, as described in the specification, enables a new control program to be installed and used to control the controller with no change in the temperature conditions, pressure conditions or the various semiconductor production conditions. This ensures that the production processing can maintain the same quality without being affected by condition changes that could have a critical effect on the product quality.

Klein simply discloses that on-line programming changes can take effect by replacing the executing code when all programs have reached a stop point, and by restarting a second program from the corresponding stop point in the second program. However, Klein does not recognize or determine the point in a semiconductor manufacturing process at which it would be desired to replace a control program. Thus, there is no disclosure or suggestion from Klein of determining the timing at which the control program can be changed, wherein a process event for forming a film on a substrate is determined to not be such time.

Further, both independent claims 44 and 51 require holding prior data used for carrying out a prior control program of the semiconductor manufacturing system and carrying out the new control program by employing the prior data. As further discussed in the specification, existing parameters, such as temperature change rate, gas flow rate, etc. that are used to execute the old control program are retained in memory 46 when switching over the to new control program. Control unit 47 uses the existing parameters to execute the new control program that is stored. As such, even when the control performance is enhanced by upgrading the control program to a new version, or when a control program problem is overcome by the new program, the manufacturing system can continue to manufacture products under the same conditions as before.

- 8 -

In Klein, in changing a program, data from various sensors relating to an industrial process is received. However, this simply describes a central control computer monitoring a PLC or the like, corresponding to a control server in the present invention.

Accordingly, it may be seen that Klein does not carry out the method steps of claims 44-50 relating to semiconductor manufacturing, does not disclose or provide any reason to change a control program as determined in independent claim 44 and does not disclose holding the prior data that is used to carry out the prior control program to carry out the new control program. Klein further fails to disclose the specific change points as for example recited in claims 46-50.

Klein further fails to disclose changing the control program at a timing when the controller to which the control program is supplied is not carrying out a control process of the operation of the semiconductor manufacturing system as required by claim 51. Nor does it disclose holding out the prior data used for carrying out a prior control program of the semiconductor manufacturing system and carrying out the new control program based on this data as required by claim 51. Nor does Klein disclose the change points as required in independent claims 52-55, further.

As noted above, new independent claim 56 is a system, or apparatus, claim that corresponds to claim 44. However, the claim is drafted so as to require the program to be one which can carry out the specifically recited steps, and the controller is recited as configured to carry out the determining, storing, etc. As such, this claim distinguishes over Klein for the same reasons as discussed above.

The Examiner's position that the semiconductor manufacturing system is a design choice is incorrect as a matter of law. The position is respectfully traversed, and if maintained, the Examiner is requested to cite a specific reference that discloses such a system as an "obvious design choice."

The Examiner's position that the events listed are _inherent_ features in a manufacturing system is also specifically traversed. The Examiner is requested to cite evidence to support this position.

Accordingly, it is respectfully submitted to be clear from the above that all of the claims now pending in the present application patentably distinguish over Klein. Indication of such is respectfully requested.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance, and the Examiner is requested to pass the case to issue. If the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact Applicants' undersigned representative.

Respectfully submitted,

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